

ABSTRACT OF THE DISCLOSURE

An imagery characteristic is corrected by changing the position and/or orientation of a reticle or lens elements of a projection lens system. Correction of the imagery characteristic, however, causes displacement of the projected pattern image of the reticle. The relation between the driving amount of the lens elements and reticle and the lateral displacement of the center of the pattern image of the reticle is stored as a table in advance. When the lens elements and/or the reticle are driven, lateral displacement of the pattern image can be obtained by accessing the table. Alternatively, the lateral displacement can be determined using a base-line amount corresponding to a distance between a detection center of a substrate position detector and a center of the projected image. Once the pattern image displacement is determined, the substrate can be accurately positioned. In another arrangement, a mask alignment method prevents positional shift of a projected image of a mask pattern even if the projection magnification of the projection optical system is changed.